GEROTOR AND BEARING SYSTEM FOR WHIRLING MASS ORBITAL VIBRATOR

ABSTRACT OF THE DISCLOSURE

A gerotor and bearing apparatus for a whirling mass orbital vibrator which generates vibration in a borehole. The apparatus includes a gerotor with an inner gear rotated by a shaft having one less lobe than an outer gear. A whirling mass is attached to the shaft. At least one bearing is attached to the shaft so that the bearing engages at least one sleeve. A mechanism is provided to rotate the inner gear, the mass and the bearing in a selected rotational direction in order to cause the mass, the inner gear, and the bearing to backwards whirl in an opposite rotational direction. The backwards whirling mass creates seismic vibrations.